

Application No. 09/668,866
Page 2

Amendment

all amended
contemporary engagement of all wafers in a runner disk, the arm member having a vertical axis at a predetermined spacing from the first vertical axis about which the arm member is rotatably supported between a first position wherein the suction head is above a lay-down device and a second position wherein the first vertical axis of a suction head is aligned with the center of one runner disk in the predetermined position, the runner disk further having a mark associated with one opening of the runner disk and the suction head having one sensor for detecting the mark during rotation of the suction head aligned with the runner disk to align the suction ports with the individual wafers in the runner disk.

all
3. (Amended) The apparatus according to claim 2, characterized in that the mark (64) is a deepened space.

all
9. (Amended) The apparatus according to claim 1, characterized in that the arm (50) is pivotally supported about a vertical axis on a bearing component (28a) and is driven by a swivel drive and that the bearing component (28a) is movably supported along a linear guide (101) which is arranged between the polishing machine and a second polishing machine and that the bearing component (28a) is adapted to be displaced by an actuator drive along the guide (101).

Please add the following new claim:

all
11. (New) An apparatus for removing semiconductor wafers from within runner disks in a double-sided polishing machine, comprising:

a suction head (52) adapted to be connected to a vacuum, which has a plurality of suction ports (60, 61) such that all semiconductor wafers (26) received by a runner disk (24) may be gripped simultaneously;

an arm (50) on which the suction head (52) is rotatably supported about a vertical axis and which, in turn, is pivotally supported about a vertical axis at a spacing from the suction head or is supported so as to be linearly adjustable or adjustable in height;

a rotary drive (52') for the suction head (52), a drive (30) for the arm (50), a lifting

Application No. 09/668,866
Page 3

Amendment

ay could
drive for the arm (50), and
a control device for activating the drives such that the semiconductor wafers (26) may
be deposited on a lay-down device (72) in a predetermined, aligned position;
a mark (64) on the runner disks that is a deepened space.

In the Specification:

Please delete the paragraph found on page 2 lines 21-27 of the specification
and replace it with the following paragraph:

as
The inventive device provides a suction head which may be connected to a vacuum
and, in one aspect of the invention, may have one or more suction cups. These suction ports
or suction cups are designed so that all of the SC wafers of a runner disk can be gripped and
raised simultaneously. The suction head is adapted to be rotated by means of a rotary drive for
an alignment towards the SC wafers lying in a runner disk. The suction head, after being
swiveled to a lay-down device, may be adjusted again in a predetermined aligned position
towards the lay-down device.

Please delete the paragraph beginning on page 6 lines 26 and ending on page 7 line 16
of the specification and replace it with the following paragraph:

as
Each runner disk 24 has three reception bores spaced at 120° to receive a
semiconductor wafer 26 as is also known as such. Fig. 1 presupposes that each of the five
runner disks 24 is loaded with three SC wafers each which have been machined before and
are now intended to be gradually unloaded. This is accomplished with the aid of an unloading
apparatus which will now be described in detail. A bracket 28 is mounted on the machine
frame 20. It carries a motor 30 with a gearbox 32 and a pinion shaft 34. A special bearing 36
having inner teeth constitutes a rotational connection to a lifting unit 38. The lifting unit 38
may be pivoted about a vertical axis by means of the motor 30. It is understood that the
pivoting motion may also be substituted for by a linear motion. The lifting unit 38 has a